

Abstract of the Disclosure

A compact light-beam homogenizer is realized by multiple reflections within internally-reflecting optical channels which are arranged in a folded configuration. The optical channels may be hollow with mirrored walls, or made of a solid transparent optical material. Light enters through an apertured mirror whose internally reflective surface sends back-reflected rays forward for recycling. Multiple entry ports may be provided for combining several beams or for reducing the intensity in the channels. The homogenizer may be used in reverse as a beam divider. Different shapes of the optical channels are provided for obtaining an effective emission surface of different shapes. Due to reflections from surfaces that are parallel to the optical axis, the numerical aperture of the input beams is preserved.

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